

REMARKS

Reconsideration of the application is respectfully requested.

I. Status of the Claims

Claims 3, 5, 7 and 8 are presently pending, with claims 1, 2, 4, 6 and 9 having previously been canceled without prejudice or disclaimer. Applicants cancel claims 3 and 8 without prejudice or disclaimer, and amend claim 7. No new matter is introduced.

II. Allowable Subject Matter

Applicants thank the Examiner for indicating that claim 7 is objected to as being dependent on rejected base claim 5, but would be allowable if rewritten in independent form to include all of the limitations of rejected base claim 5. Applicants amend claim 7 accordingly, noting that independent claim 7 as amended is directed to a vacuum degassing apparatus as may be used in an analytical instrument for removing dissolved gas from liquid (see, e.g., page 1, line 15 through page 2, line 15 of Applicants' specification), the apparatus comprising: a) a vacuum vessel including a gas permeation diaphragm, b) an exhaust vacuum pump, and c) a vacuum control system.

The vacuum control system includes a controller for monitoring the inside pressure of the vacuum vessel and for controlling the displacement of the exhaust vacuum pump, and an air introduction device inserted in a vacuum exhaust path connecting the vacuum vessel to the exhaust vacuum pump for continuously introducing a controlled amount of air externally supplied into the

vacuum exhaust path. The controller is operated to hold the degree of vacuum in the vacuum vessel constant. Circulation resistance of the externally-supplied air can be adjusted by varying an insertion length of the resistance adjusting rod inserted into the hollow capillary, and can be fixed by fitting a separation preventing short tube to an outer circumference of the hollow capillary at an opening end.

Applicants therefore respectfully request that the objection to claim 7 be withdrawn.

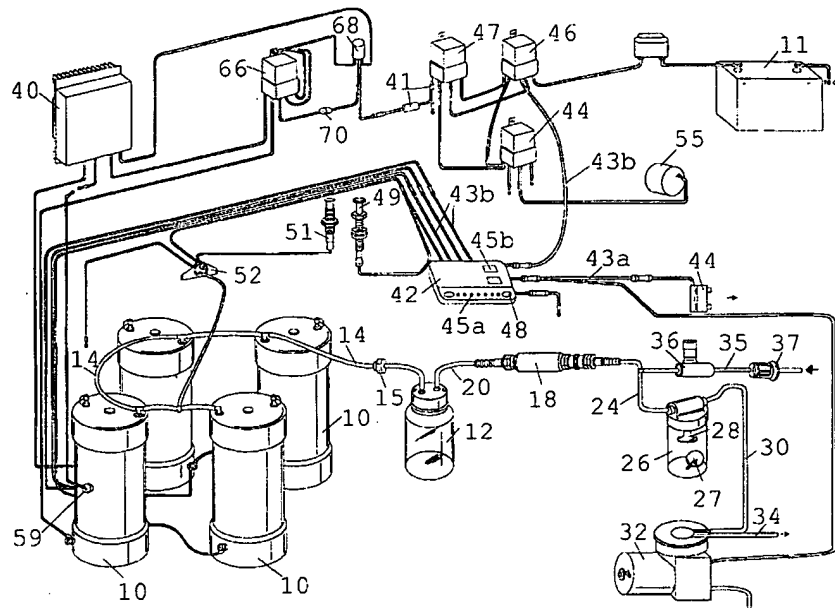
III. Claim Rejections under 35 U.S.C. § 102

Claims 3 and 8 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. patent No. 5,901,750 to Kozinski. In the interests of prosecution efficiency, Applicants cancel claims 3 and 8 without prejudice or disclaimer, reserving all right to reintroduce claims 3 and 8 in a continuation application filed at a later date. Applicants respectfully submit therefore that the rejections of claims 3 and 8 now stand moot.

IV. Claim Rejection under 35 U.S.C. § 103

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 1003/0024489 to Balan et al. in view of Japanese Patent Publication No. 2000-102702 to Kozo et al. Applicants respectfully traverse this rejection.

Balan discloses a hydrogen generating apparatus comprising an exhaust vacuum pump 32 and an air introduction device 36.

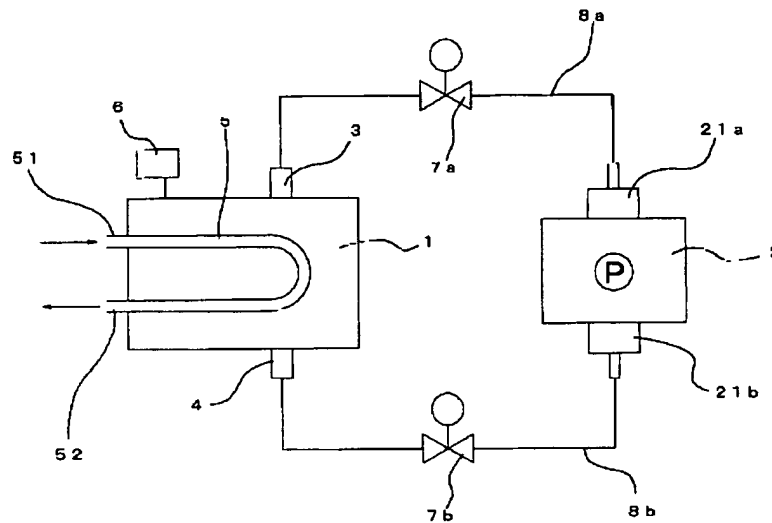


In sharp contrast to Applicants claimed invention, the Examiner acknowledges that Balan fails to teach a vacuum vessel including a gas permeation diaphragm, but suggests that this deficiency is overcome with the addition of Kozo.

The Examiner further asserts that Kozo teaches “operating a controller 6 to hold the degree of vacuum in the vacuum vessel 1 constant.” Applicants respectfully disagree.

Applicants submit that there is no disclosure in the abstract of Kozo or in Balan that teaches or suggests a controller operative to hold the degree of vacuum in the vessel constant. While Balan suggests that a voltage to the pump 32 may be controlled to regulate the amount of vacuum to remain below an upper threshold (see, e.g., paragraphs [0033], [0034] of Balan), Balan does not explicitly teach a controller that operates to maintain vacuum at a constant level.

While the abstract of Kozo describes a vacuum pump 2 that may be operated to evacuate dissolved gas from the vacuum vessel 1, the abstract and figure of Kozo do not describe or illustrate a controller that is operative to maintain an associated degree of vacuum at a constant level:



Moreover, even if Kozo teaches or can be said to inherently disclose a controller, Applicants submit that this controller would not be operative to maintain a constant degree of vacuum absent Applicants' claimed air introduction device (see, e.g., page 2, line 27 through page 3, line 6 of Applicants' specification).

Applicants further submit that, even if Balan and Kozo were combined to teach a vacuum vessel having a gas permeation diaphragm, an exhaust vacuum pump and an air introduction inserted in a vacuum exhaust path between the vacuum vessel and the vacuum pump, this combination would still fail to teach a controller operative to hold the degree of vacuum

constant. Rather, on the basis of Balan, Applicants submit that the combination would teach only a controller operative to keep the degree of vacuum below an upper threshold level.

For at least the above-argued reasons, Applicants respectfully submit that independent claim 5 is not made obvious by the combination of Balan and Kozo, and stands in condition for allowance. Applicants therefore respectfully request that the rejection of independent claim 5 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

In view of the above amendments and remarks, Applicant believes the pending application is in condition for allowance. If there are any remaining issues which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below..

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Respectfully submitted,

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